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## A Preliminary Analysis of Health and Fitness Characteristics for Custody Assistant Recruits in a Law Enforcement Agency Prior to Academy

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### ABSTRACT

The use of physical ability and fitness testing as an employment qualification is common among law enforcement occupations, due to the physical demands of the job. Most law enforcement agencies (LEAs) require candidates to meet a certain physical fitness level, or standard, as part of their selection process. However, custody assistant (CA) and correctional populations may only use height and body mass measures that cannot often be strictly enforced, as courts have commonly ruled against using height and body mass standards based on the assumption that they are not job-related. Nonetheless, the health and physical fitness of a CA recruit prior to academy could influence whether they are capable of successfully completing academy and graduating, in addition to their future job performance or longevity. **PURPOSE:** To determine the overall health and fitness characteristics of CA recruits entering academy training relative to population norms. **METHODS:** Retrospective analysis was conducted on 90 (males=49; females=41; 18-57 years) CA recruits from three LEA academy classes. Physical fitness testing occurred three days prior to the start of academy for each class. The health assessments included: height, body mass, body mass index (BMI), and waist girth measurements; resting blood pressure; grip strength measured by a hand dynamometer; maximal push-ups in 60 seconds; and recovery heart rate from Young Men's Christian Association (YMCA) step test as a measure of aerobic fitness. Data from the CA recruits were compared to age- and sex-related norms established by the American College of Sports Medicine (ACSM). **RESULTS:** Of the recruits measured, 4.76% had a BMI score of underweight, 46.43% were normal, 39.29% overweight, and 9.52% were defined as obese. With regards to resting blood pressure 24.44% of the recruits were considered normal, while 44.44% were pre-hypertensive, 21.11% had Stage 1 hypertension, and 10.00% had Stage 2 hypertension. When considering disease risk based on BMI and waist circumference, 52.38% of the CA recruits had no increased disease risk, while 34.52% had an increased risk, 9.52% had a high risk, and 3.57% had a very high risk. The grip strength score (based on the average of the two hands), resulted in 69.51% being defined as poor, 20.00% as below average, 7.78% as average, and 8.89% above average. With regards to the push-up test, 5.56% had a score categorized as needing improvement, 11.11% were fair, 13.33% were good, 16.67% were very good, while 53.33% were excellent. Regarding the recovery heart rate measured after the YMCA step test, 67.42% of the recruits had a score of very poor, 16.85% were poor, 8.99% were below average, 3.37% were average, and 3.37% were above average. **CONCLUSIONS:** The results from this study indicated that, when considering the assessed parameters, the CAs have higher health risk and poorer fitness when compared to general population norms as established by ACSM and YMCA. For example, the current standards where height and body mass are used as a physical guide for hiring resulted in 49% of recruits being above a normal BMI. Although there is no current hiring standard for strength or aerobic fitness, 83% of recruits have a grip score rated as being below average, while 93% of recruits performed below average or worse on the YMCA step test. **PRACTICAL APPLICATIONS:** The training staff for CA recruits should be aware that the majority of their classes may feature individuals with lesser health and fitness status than the population from which they are drawn. The lesser health and fitness of recruits could influence graduation rates, future job performance, and longevity, and requires further investigation. In addition, recruits should ensure they develop their physical fitness prior to academy to enhance their ability to complete training.

### INTRODUCTION

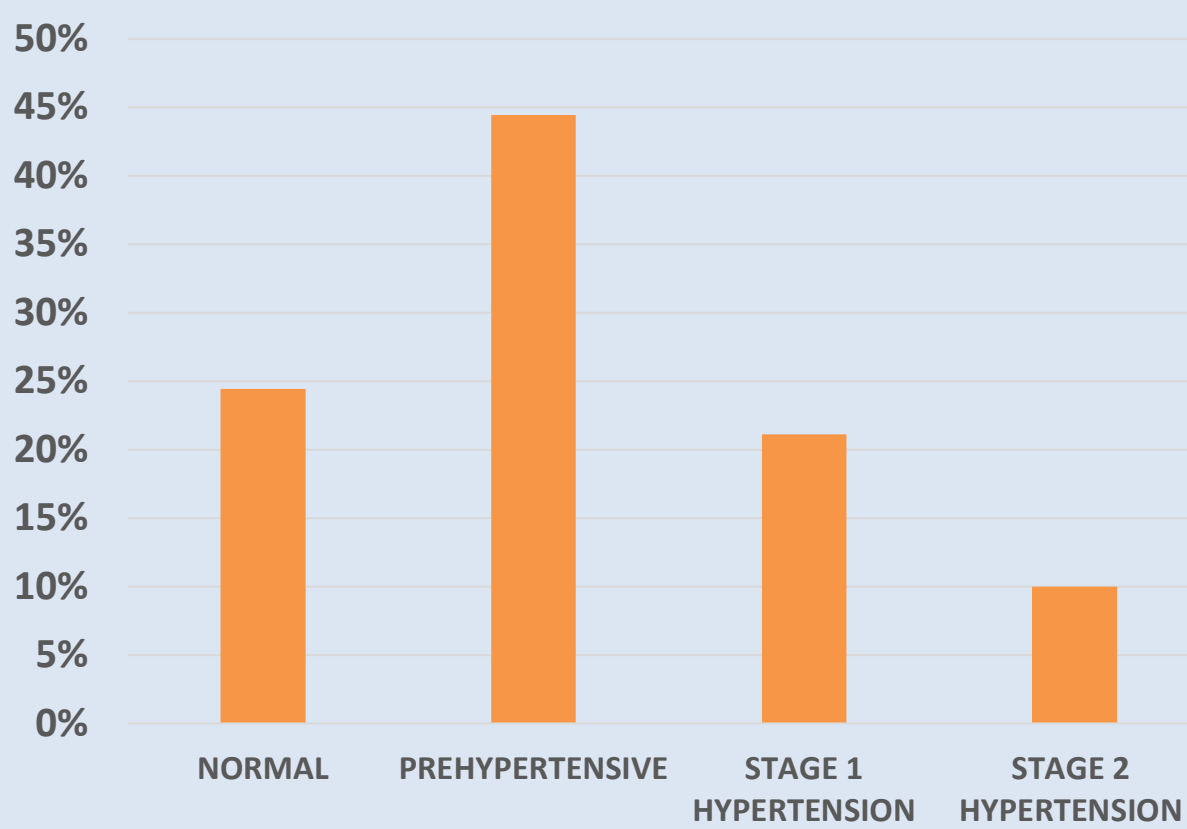
- The use of physical ability and fitness testing as an employment qualification is common among law enforcement occupations, due to the physical demands of the job.<sup>1,2</sup>
- Custody assistant (CA) and correctional populations may only use height and body mass measures that cannot often be strictly enforced, as courts have commonly ruled against using height and body mass standards based on the assumption that they are not job-related.<sup>3</sup>
- The health and physical fitness of a CA recruit prior to academy could influence whether they are capable of successfully completing academy and graduating, in addition to their future job performance or longevity.
- The purpose of this study was to determine the overall health and fitness characteristics of CA recruits entering academy training relative to population norms.

### METHODS

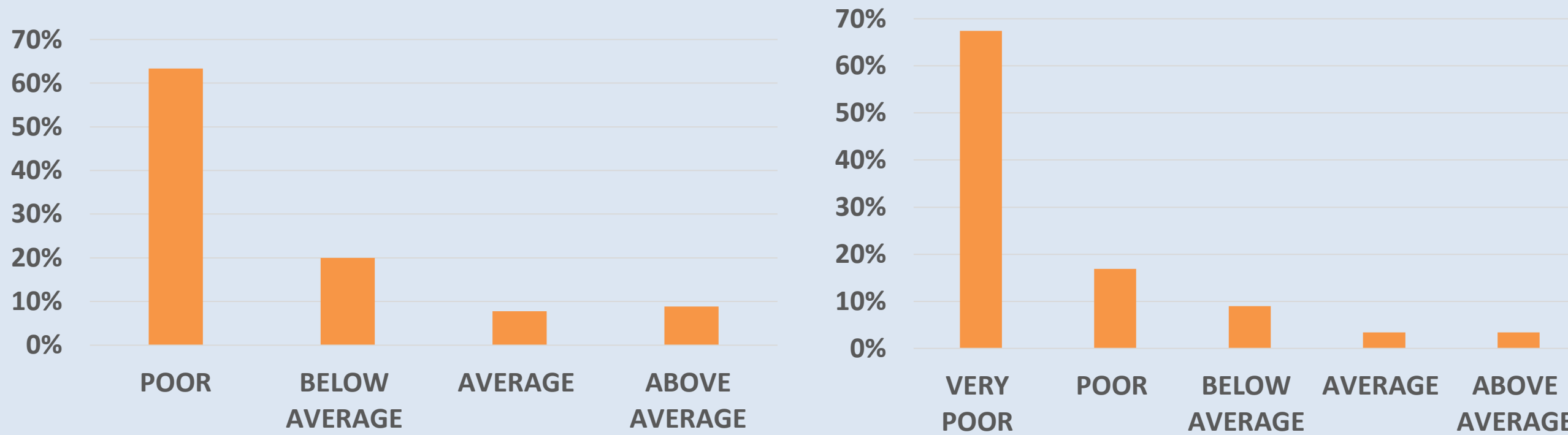
- Retrospective analysis was conducted on 90 CA recruits (males = 49; age = 18-52 years; height = 1.6-1.8 m; body mass = 52.1-108.9 kg; BMI = 16.2-32.9; females = 41; age = 18-57 years; height = 1.5-1.7 m; body mass = 46.3-87.3 kg; BMI = 18.4-31.1) from three academy classes.
- Health screening and physical fitness testing occurred three days prior to the start of academy for each class. The health assessments included: height, body mass, body mass index (BMI), and waist girth measurements; resting blood pressure; grip strength for each hand measured by a hand dynamometer; maximal push-ups in 60 seconds; and recovery heart rate from Young Men's Christian Association (YMCA) step test as a measure of aerobic fitness.
- Data from the CA recruits were compared to age- and sex-related norms established by the American College of Sports Medicine (ACSM).<sup>4</sup>

### RESULTS

- Considering BMI scores, 4.76% of the recruits were underweight, 46.43% were normal, 39.29% overweight, and 9.52% were defined as obese.
- With regards to resting blood pressure, more than 75% of the recruits were either pre-hypertensive, or had Stage 1 or Stage 2 hypertension (Figure 1).
- When considering disease risk based on BMI and waist circumference, 52.38% of the CA recruits had no increased disease risk, while 34.52% had an increased risk, 9.52% had a high risk, and 3.57% had a very high risk.
- The grip strength score (based on the average of the two hands), resulted in 63.33% being defined as poor, 20.00% as below average, 7.78% as average, and 8.89% above average (Figure 2).
- With regards to the push-up test, 5.56% had a score categorized as needing improvement, 11.11% were fair, 13.33% were good, 16.67% were very good, while 53.33% were excellent.
- For the recovery heart rate measured after the YMCA step test, ~96% of CA recruits were below average in a measure of aerobic fitness (Figure 3).



**Figure 1:** Percentage of CA recruits defined as normal, pre-hypertensive, Stage 1 hypertension, or Stage 2 hypertension as defined by the ACSM.



**Figure 2:** Percentage of CA recruits defined as poor, below average, average, or above average in grip strength (sum of left and right hands) compared to age- and sex-related norms established by the ACSM.

**Figure 3:** Percentage of CA recruits defined as very poor, poor, below average, average, or above average in YMCA step test recovery heart rate compared to age- and sex-related norms established by the ACSM.

### CONCLUSION

- When recruiting from the general population without physical fitness requirements, the CA recruits for this law enforcement agency had higher health risk and poorer fitness when compared to general population norms as established by ACSM and YMCA.<sup>4</sup>
- For example, the current standards where height and body mass are used as a physical guide for hiring resulted in 49% of recruits being above a normal BMI. Although there is no current hiring standard for strength or aerobic fitness, 83% of recruits have a grip score rated as being below average, while 93% of recruits performed below average or worse on the YMCA step test.

### PRACTICAL APPLICATIONS

- The lesser health and fitness of recruits could influence graduation rates, future job performance, and occupational longevity.
- The training staff for CA recruits should be aware that the majority of their classes may feature individuals with lesser health and fitness status than the population from which they are drawn.
- Recruits should ensure they develop their physical fitness prior to academy to enhance their ability to complete training.

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